

# USER MANUAL

## **Smart Pulse Oximeter**

Simple Operation

High Measuring Accuracy



# NantLife

# NantLife

## Smart Pulse Oximeter

NantCare LLC, 2929 N 44th Street  
Phoenix, Arizona, 85018-7239 - USA

1-855-NANTCARE - Email: [support@nantcare.com](mailto:support@nantcare.com)  
[www.nantcare.com](http://www.nantcare.com)

## Table of Contents

### 1 Table of Contents

1.1	Introduction	P 4
1.2	Intended Use	P 5
1.3	Safety Information	P 5
1.3.1	Operating the Device	P 6
1.3.1.1	Warnings	P 6
1.3.1.2	Cautions	P 8
1.4	Before Taking a Measurement	P 9
<b>2</b>	<b>Operating Instructions</b>	P 11
2.1	Know your Pulse Oximeter	P 11
2.2	Unit Display	P 12
2.3	Display Symbols	P 13
2.4	Batteries Installation	P 14
2.5	Batteries Replacement	P 15
2.6	Using the Pulse Oximeter	P 16
2.7	Taking a Measurement	P 17
2.8	Menu Setting	P 18
2.9	Bluetooth Activation & Pairing	P 20

2.9.1	Pairing with a smart device	P 21
2.9.2	Pairing with HBox -Tap to Pair	P 21
2.9.3	Pairing with MyHBox app	P 21
2.10	Data Transmission	P 22
2.11	Using the software and apps	P 22
<b>3</b>	<b>Care and Maintenance</b>	P 24
3.1	Cleaning	P 24
3.2	Maintenance	P 24
<b>4</b>	<b>Troubleshooting</b>	P 25
4.1	Error Indicator	P 25
4.2	Troubleshooting Tips	P 25
<b>5</b>	<b>FCC Statement</b>	P 27
<b>6</b>	<b>CE mark</b>	P 30
<b>7</b>	<b>Warranty</b>	P 31
<b>8</b>	<b>Specifications</b>	P 33
<b>9</b>	<b>Manufacturer</b>	P 35

## 1.1 Introduction

Thank you for purchasing the NantLife Smart Pulse Oximeter.

With its unique wireless integrated technology, the NantLife Smart Pulse Oximeter enables you to perform first-class, comfortable and extremely gentle non-invasive measurements of the oxygenation of a user's hemoglobin. You have chosen the most up-to-date form of healthcare management. Measured values are transmitted automatically to a database via Bluetooth.

The NantLife Smart Pulse Oximeter comes with the following components:

- **Color OLED screen display (organic light-emitting diode)**
- **Uni-sized finger probe**
- **Bluetooth® data transmission**
- **User Manual**
- **User Guide**

## 1.2 Intended Use

- The fingertip NantLife Smart Pulse Oximeter is for the home use.
- NantLife Smart Pulse Oximeter is intended for spot-checking in measuring and displaying functional arterial oxygen saturation (SpO<sub>2</sub>) and pulse rate in the home.
- The device is indicated for use by people above 12 years old to geriatric on finger between 0.3-1.0 inch (0.8-2.5cm) thick.
- Under eighteen (18) years of age, use with adult supervision.
- Never change your medication on the basis of results you have obtained. The treating physician may only carry out the evaluation of the measurements and the treatment based on them.
- The NantLife Smart Pulse Oximeter is not intended to be a diagnostic device.
- This device is intended for use in measuring oxygen saturation in blood pressure and pulse rate in the adult and pediatric population. Do not use this device on infants or person who cannot express their intention.

## 1.3 Safety Information

*To assure the correct use of the ear thermometer, safety measures should always be followed including the warnings and cautions lifted in this instruction manual.*

## 1.3.1 Operating the Device

### 1.3.1.1 Warnings

Read all of the information in the instruction manual and any other instruction in the box before operating the unit. If you experience discomfort during a measurement, remove the finger from the Oximeter and stop using the device. Please contact NantLife Customer Service.

**In addition, please note:**

- Self-diagnosis and treatment using measured results may be dangerous. Follow the instructions of your physician or licensed healthcare provider.
- Do not under any circumstances use the device in the bath or the shower. If, however, liquid get into the device, you must remove the batteries immediately and refrain from further use. Contact our service department (see front cover).
- The device may not be used near a nuclear magnetic tomographic resonance.
- Using components that are not part of the scope of delivery can produce faulty measurements (Exception: battery replacement).
- DO NOT subject the monitor to strong shocks such as dropping the unit on the floor.
- DO NOT damage the batteries. If battery fluid gets in your eyes, immediately rinse with plenty of clean water and contact a physician immediately.
- Keep away from source of fire and/or heat.

- Store the device in a clean, safe location.
- DO NOT disassemble the Smart Pulse Oximeter.
- DO NOT use the Smart Pulse Oximeter in a MRI or CT environment.
- DO NOT use the Pulse Oximeter in the presence of flammable anesthetics.
- Explosion hazard: DO NOT use the Smart Pulse Oximeter in an explosive atmosphere.
- Chemicals from OLED panel are toxic if ingested. Use caution if the device display screen is broken.
- The Smart Pulse Oximeter is intended only as an adjunct in patient assessment. It must be used in conjunction with other methods of assessing clinical signs and symptoms.
- Check the Pulse Oximeter application site frequently to determine skin sensitivity of the patient.
- Prolonged use or the patient's condition may require changing the site periodically. Change finger and check skin integrity, circulatory status.
- Use only 1.5V alkaline batteries with this device. Other type of battery may damage the unit.
- Follow local ordinances and recycling instructions regarding disposal or recycling of the device components, including batteries.
- Only the authorized service personnel can repair this device.

### 1.3.1.2 Cautions

- Significant levels of dysfunctional hemoglobin may cause inaccurate readings.
- Measurements may be affected by dyes such as indocyanine green and methylene blue.
- Measurements may be affected by upper ambient light (e.g. direct sunlight).
- Excessive user movement may cause inaccuracy.
- Upper-frequency electrosurgical interference may cause inaccurate readings.
- Venous pulsations may cause inaccurate readings
- Placement of Pulse Oximeter on an extremity with a blood pressure cuff, arterial catheter, or intravascular line may cause inaccurate readings.
- Users with hypotension, severe vasoconstriction, anemia, and/or hypothermia may cause inaccuracy.
- Autoclaving, ethylene oxide sterilizing, or immersing the pulse oximeter in liquid may cause inaccurate measurements.
- Excessive user movement may cause inaccurate readings
- All NantLife devices are designed to be compliant with rules and regulations in locations they are sold and are labeled as required.
- Any changes or modifications to NantLife equipment, not expressly approved by NantLife void the user's authority to operate the device.

## 1.4 Before Taking a Measurement

General information about oxygen saturation in blood:

Your oxygen saturation in blood fluctuates throughout the day. Hypoxemia, or low blood oxygen, describes a lower than normal level of oxygen in your blood. In order to function properly, your body needs a constant level of oxygen circulating in the blood to cells and tissues. When this level of oxygen falls below a certain amount, hypoxemia occurs and you may experience shortness of breath.

Your doctor determines whether you have hypoxemia by measuring your blood oxygen level — the amount of oxygen traveling in your arteries. Your blood oxygen can be measured by testing a sample of blood from an artery. (Resource: Mayo Family Health Book, Fourth Edition)

NantLife pulse oximeter, a small device that clips on your finger, measures the saturation of oxygen in your blood; the results are often used as an estimate of blood oxygen levels. Normal pulse oximeter readings range from 95 to 100 percent, under most circumstances. Values under 90 percent are considered low.

If you monitor your blood oxygen regularly, you will discover more about your body's reactions to external influences (e.g. stress, air pollution or exercise), and you will be able to consciously develop a healthier lifestyle.

Your healthcare providers want to get an accurate picture of your blood oxygen levels and chart what happens over time. Your doctor will evaluate the data you have stored, once you share it with her/him, and will immediately have a better overview of the course of your blood oxygen measurements. You will be controlling and supporting the monitoring of your doctor's treatment.

- Avoid eating, drinking alcohol, smoking, exercising, and bathing for more than 30 minutes before taking your measurement.
- Rest for 10 minutes before taking the measurement.
- Do not take measurement during stressful times.
- Remain still during measurement.
- Try to measure your oxygen saturation in blood at about the same time every day for consistency.

## 2 Operating Instructions

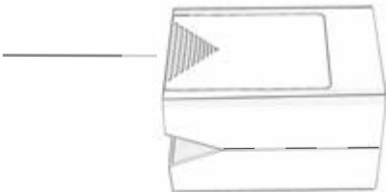
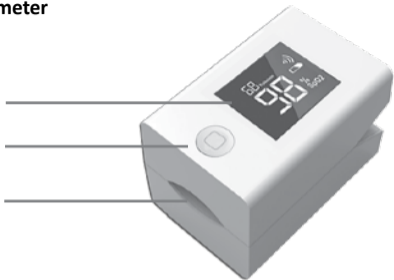
### 2.1 Know your Pulse Oximeter

**OLED Screen**

**Button**

**Finger Probe**

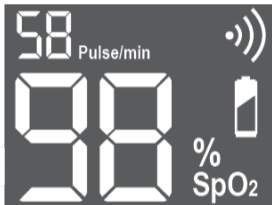
**Batteries Compartment**



## 2.2 Unit Display

Pulse rate beats per minutes









Wireless Transmission Signal




Low Power Indicator

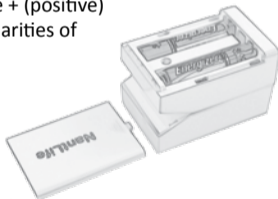
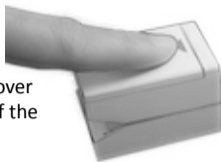
Percentage of oxygen saturation in blood

## 2.3 Display & Label Symbols

Symbols	Operation	Measure/Solution
SpO2%	Oxygen saturation in blood	Percentage
Pulse/min.	Display pulse	Beats per minute
	Low Power Indicator	Replace batteries
	Wireless Data Transmission	see section 2.8 to change setting
	Manufacturer information	
	Read instructions carefully before use	
	There are specific warnings or precautions associated with this device	
	Disposed of separately from normal household waste	
	Type BF Applied Part	
4.0 	Bluetooth® Low Energy	

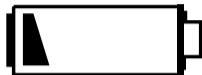
## 2.4 Batteries Installation

1. Press the  indicator on the battery cover and slide the cover off in the direction of the arrow.
2. Install 2 “AAA” size batteries so the + (positive) and the – (negative) match the polarities of the battery compartment.
3. Replace the battery cover



## 2.5 Batteries Replacement

When the low battery indicator appears on the display screen, turn off the Pulse Oximeter and remove all the batteries.



*Low batteries signal*

Replace with 2 new “AAA” 1.5V alkaline batteries.

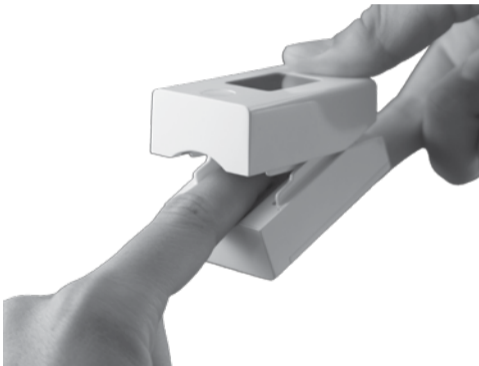
**WARNING:** If battery fluid gets in your eyes, rinse with plenty of clean water and contact a physician immediately.

**CAUTION:** Dispose of the device and empty batteries according to applicable local regulations.

Unlawful disposal may cause environmental pollution.

## 2.6 Using the Smart Pulse Oximeter

1. Open the clamp and insert a finger into the Smart Pulse Oximeter as illustrated below.



## 2.7 Taking a Measurement

1. Sit in a chair and make sure your hand is not moving.
2. Once your finger is inserted properly, the display will light up automatically and after a few seconds, the Pulse Oximeter will display SpO2% and a pulse rate. Stay still for a minimum of 5 seconds.
3. The NantLife Smart Pulse Oximeter will also transmit the recorded information via Bluetooth®. List of compatible devices at [www.NantLife.com](http://www.NantLife.com).
4. The measurement is sent automatically to your virtual Health Diary. You can access your data by login in the Nantlife portal or by using the NantLife App.
5. After transmitting the data, the Smart Pulse Oximeter shuts down automatically within 20 seconds.

### Notes:

Keep your hand still during the measurement. Do not pour or spray liquids onto the sensor. The Smart Pulse Oximeter will shut down after 20 seconds if no measurement is being taken.

For best accuracy and consistency, we recommend taking your measurement after a 5 minutes rest.

## 2.8 Menu Setting

**Bluetooth Settings:** By default, the Bluetooth function is on. The Bluetooth can be switched off in the menu setting screen.

**Transmission Frequency:** By default, the Pulse Oximeter transmits readings at an interval of 10 seconds (10s).Transmission interval can be change to:

- 0: only one record is sent
- 10: send one record every 10 seconds
- 1: send one record every second
- 60: send one record every minute

### To enter the Menu Setting:

- 1) Press and hold the button for 2 seconds to enter in the menu screen (figure 1)
- 2) The white dot shows in front of the Bluetooth line. Press the button quickly one more time to switch the Bluetooth function off. The wireless signal is now crossed (figure 2)
- 3) Press and hold the button for 2 seconds to go down to the Interval line (figure 3) Press the button quickly to reach the desired interval time (figure 4, 60 seconds in that example, [60s])
- 4) Press and hold the button to exit, the white dot shows on the Exit line (figure 5)

5) Press the button once to exit the settings menu



Figure 1



Figure 2





Figure 3



Figure 4



Figure 5

Menu Symbols	Operation	Explanation
○	White dot	Indicate active setting
	Wireless Data Transmission ON	see Section 2.8 to change setting
	Wireless Data Transmission OFF	See Section 2.8 to change setting
3s	Transmission every 3 seconds	See Section 2.8
5s	Transmission every 5 seconds	See Section 2.8
8s	Transmission every 8 seconds	See Section 2.8

## 2.9 Bluetooth Pairing

### 2.9.1 Pairing with a smart devices (smartphone-tablet-laptop) in 3 easy steps

Make sure Bluetooth is enabled in your smart device (see your mobile smart device user manual for details). If your smart device is already activated, go to Step 1. (If NantLife has delivered the device already paired, go directly to 2.10 page 22 “data transmission”).

Download NantLife app on your smart device, create an account if it is your first time using NantLife.

**Step 1:** Press the button to activate the Smart Pulse Oximeter.

The screen turns on. Make sure the Wireless Data Transmission symbol is blinking. The sensor is ready to pair with your smart device.

**Step 2:** On your NantLife app, hit the “Scan” button.

**Step 3:** When the Pulse Oximeter icon is highlighted, select it and press the “Pair” button

Caution: Your smart device must have a compatible Bluetooth Low Energy interface. You can find more information at [www.nantlife.com](http://www.nantlife.com) on compatible smart devices.

### 2.9.2 Pairing with the HBox® in 1 easy “Tap to Pair” step

Make sure the HBox® is powered on and the middle green LED light is on, refer to the HBox® user manual for more details.

Gently **tap** the Smart Pulse Oximeter on the upper front of the HBox®. The blue LED light will turn on to confirm pairing.



### 2.9.3 Pairing with HBox® using MyHBox

Make sure the HBox® is powered on and the middle green LED light is on, refer to the HBox® user manual for more details. Download the MyHBox® App and create an account if it is your first time using “MyHBox” App. Refer to the HBox® user manual for instructions.



## 2.10 Data Transmission

The measurements saved in the Pulse Oximeter are transmitted automatically to your Bluetooth® enabled smart device (smartphone, tablet, laptop) and/or to the HBox® hub. The Wireless Data Transmission symbol blinks rapidly on the screen showing successful data transmission. The Pulse Oximeter stores the latest 50 records if it cannot transmit the data to the paired device.



## 2.11 Using the software and the apps

NantLife Health Management Portal and Applications allow you to connect, control and share your vital signs with the persons of your choice on a secured Healthcare dedicated platform. To create your Virtual Health Diary, you can access NantLife portal at [NantLife.com](http://NantLife.com) and/or download for free the NantLife application from the Apple store and Android and Windows apps stores.



Screen examples from the NantLife application

## **3 Care and Maintenance**

### **3.1 Cleaning**

If required, wipe the plastic casing with a damp cotton cloth only.

Do not use abrasive or volatile cleaners.

Clean the rubber touching the finger and the probe inside the Pulse Oximeter with a soft cloth dampened with 70% isopropyl alcohol before and after each measurement.

### **3.2 Maintenance**

Remove the batteries if the unit will not be used for three months or longer.

Use the unit in a manner that is consistent with the user guide manual provided.

Store the Pulse Oximeter in a cool and dry location, free from dust and direct sunlight.

## 4 Troubleshooting

### 4.1 Error Indicator

Error	Cause	Solution
" — — "	the measure is out of preset range	Keep your hand still and repeat the measurement. See 2.6 & 2.7

### 4.2 Troubleshooting Tips

Description	Cause	Solution
SpO2% or pulse rate does not show on display	a) The finger is not inserted properly b) User's SpO2 value is too low to be measured	a) Retry a correct insertion of the finger. b) Measure other users to make sure that no problem exists in the device. Go to a hospital in a timely manner for an exact diagnosis.

Description	Cause	Solution
SpO2% and/or pulse rate are unstable	a) The finger is not inserted properly b) Excessive user movement	a) Retry by inserted the finger to the end of the sensor b) Stop moving the finger, hand and body.
The Pulse Oximeter cannot be powered on	a) No Battery or low power b) Batteries installed incorrectly c) The Pulse Oximeter may be damaged	a) Replace the batteries b) Reinstall the batteries c) Contact the customer service department Call: 1-855-NANTCARE
Display suddenly turns off	a) The Pulse Oximeter turns off after 8 seconds if no activity is detected b) The battery power is too low to work	a) Relocate the sensor on another finger to reactivate it. Make sure the signal strength is strong for stable display b) Replace the batteries

## 5 FCC Statement

### POTENTIAL FOR RADIO/TELEVISION INTERFERENCE (for U.S.A. only)

This equipment has been tested and complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user guide manual, might cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If the product does cause harmful interference to radio or television reception, which can be determine by turning the product on and off, the user is encourage to try to correct the interference by one of the following actions:

- Reorient or relocate the receiving antenna
- Increase the separation between the product and the receiver
- Consult the dealer or an experience radio/TV technician for help
- Plug the product (if relevant) in an outlet on a circuit different from that to which the receiver is connected. NantLife is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the users authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device might not cause harmful interference, and (2) this device must accept any interference received, including interference that might cause undesired operation.

#### POTENTIAL FOR RADIO/TELEVISION INTERFERENCE (for Canada only)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus”, ICES-003 of the Canadian Department of Communications. Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques”, ICES-003 édictée par le ministre des communications.

Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to use the equipment.

A reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user guide manual, might cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If the product does cause harmful interference to radio or television reception, which can be determine by turning the product on and off, the user is encourage to try to correct the interference by one of the following actions:

- Reorient or relocate the receiving antenna
- Increase the separation between the product and the receiver
- Consult the dealer or an experience radio/TV technician for help
- Plug the product (if relevant) in an outlet on a circuit different from that to which the receiver is connected.

NantLife is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the users authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device might not cause harmful interference, and (2) this device must accept any interference received, including interference that might cause undesired operation.

## 6 CE mark

NantLife Smart Pulse Oximeter complies with the provisions of Council Directive 93/42/EEC of 14 June 1993 as well as national laws concerning medical devices.

NantLife Smart Pulse Oximeter complies with the provisions of Council Directive 99/5/EC(R&TTE). It carries the CE mark as proof of this.

## 7 Warranty

1. The Smart Pulse Oximeter is warranted to be free from defects in material and workmanship appearing within one year from the date of purchase when the meter is used in accordance with the instructions provided with the monitor. Proof of purchase must be supplied in the form of a complete payment receipt with date of purchase. Include a \$5.00 for return shipping and handling. Include a letter with your name, address, phone number, and description of the problem. Pack the product carefully to prevent damages during transportation.
2. Defects due to faulty material or workmanship will be repaired free of charge during the warranty period.
3. The warranty period is not extended as a result of warranty services being provided, either for the devices as a whole or for any components.
4. The warranty excludes:
  - Any damage caused by improper use, e.g. through failure to observe the operating instructions,
  - Damage caused by maintenance or interventions carried out by the purchaser or unauthorized third parties
  - Damage resulting from transport, either from the manufacturer to the consumer, or on the way to the customer services.
  - Component parts subject to normal wear and tear (clamp, batteries etc.)

5. Liability is excluded for direct or indirect damage caused by the device, even if the damage to the device falls within the terms of the warranty
6. The above warranty extends only to the original retail purchaser.
7. NantLife shall not be liable for loss of use or any other incidental, consequential or indirect costs, expenses or damages.

To obtain warranty service contact NantLife for the address of the repair location.

**For Customer Service**  
**Visit our website at [www.NantLife.com](http://www.NantLife.com)**  
**Call toll free at 1-855-NANTCARE**  
**1-855-626-8227**

## 8 Specifications

Measuring Accuracy	SpO2: 35%-99% Accuracy: 75%-99% $\pm 2\%$ 50%-75% $\pm 3\%$ PR: 30-240 bpm $\pm 2$ bpm or $\pm 2\%$
Operating temperature	+ 4°C to + 42°C + 41°F to + 107.6°F
Operating humidity	10 to 95%
Storage temperature	-20°C to 70°C -4°F to 158°F
Storage Humidity	10% to 95%RH no condensation
Resolution	SpO2%: 1 Pulse Rate: 1 beat per minute (1/min)
LED Wavelengths and Output Power	Red: approximately 660nm@0.8W maximum average Infrared: approximately 940nm@0.8W maximum average
Wireless transmission distance	Recommend used in 10 meters 30 feet
Operating elements	One button: start/stop
Data transmission	Bluetooth Smart

Display	<p>OLED display</p> <p>SpO2 display range: 35~99%</p> <p>SpO2 Measuring range: 50~99%</p> <p>PR display range: 30~240 bpm</p> <p>PR measuring range: 30~240 bpm</p> <p>PR display mode: Amplitude Bar</p> <p>Data update period: &lt;15 s</p>
Power supply	2 alkaline 1.5V AAA LR03 batteries
Unit Dimensions	40mm x 40mm x 60mm, 1.57" x 1.57" x 2.36"
Weight	50g (1.8oz) not including batteries

## 9 Manufacturer

Manufactured by NantCare LLC - Made in China

Distributed by NantCare LLC

2929 N 44th Street - Phoenix, Arizona 85018

Toll free phone 1-855-NANTCARE - [www.NantLife.com](http://www.NantLife.com)

The manufacturer has calibrated the Smart Pulse Oximeter for a period of two years. Metrological inspection and adjustment must take place of two years. Metrological inspection and adjustment is subject to a fee and can be carried out by NantLife, a responsible authority, or an authorized maintenance service.

**Add more NantLife medical devices  
to your wireless monitoring**



**Visit us at [www.NantLife.com](http://www.NantLife.com)**